

(i) a 5'-polynucleotide probe comprising a 3'-region that is capable of specifically hybridizing to the first portion of the target nucleic acid and a 5'-region located immediately 5' to the 3'-region; and

(ii) a 3'-polynucleotide probe comprising a 5'-region that is capable of specifically hybridizing to the second portion of the target nucleic acid and a 3'-region located immediately 3' to the 5'-region,

under conditions in which the 3'-region of the 5'-probe and the 5'-region of the 3'-probe specifically hybridize immediately contiguously with one another to the first and second portions, respectively, of the same target nucleic acid molecule;

(b) selectively cleaving the 5'-polynucleotide probe to release a nucleotide or a polynucleotide from its 5'-region; and

(c) detecting or quantifying said cleavage.

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8. (Amended) The method of Claim 7 in which step (c) comprises detecting the presence of the released nucleotide or polynucleotide, where the presence of the released nucleotide or polynucleotide correlates with the presence of the target nucleic acid in the sample.

9. (Amended) The method of Claim 7 in which step (c) comprises quantifying the amount of nucleotide or polynucleotide released, where the quantity of released nucleotide or polynucleotide correlates with the presence or abundance of the target nucleic acid in the sample.

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14. (Amended) The method of Claim 7 in which the 3'-probe comprises a 3'-flap region that is 1 to 10 nucleotides in length.

51. (Amended) A hybridization complex comprising:

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(a) a bridge polynucleotide comprising a first portion and second portion located immediately 3' to the first portion;

(b) a first polynucleotide probe comprising a 3'-region and a 5'-region located immediately 5' to the 3'-region; and

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(c) a second polynucleotide probe comprising a 5'-region and a 3'-region located immediately 3' to the 5'-region,

wherein the 3'-region of the first probe and the 5'-region of the second probe are specifically hybridized immediately contiguously with one another to the first and second portions, respectively, of the same bridge polynucleotide molecule, thereby forming a hybridization complex.

59. (Amended) A kit for detecting the presence of a target nucleic acid in a sample, comprising:

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(a) a FEN-1 polypeptide;

(b) a first polynucleotide probe comprising a 3'-region capable of specifically hybridizing to a first portion of a target nucleic acid of interest and a 5'-region located immediately 5' to the 3'-region; and

(c) a second polynucleotide probe comprising a 5'-region capable of specifically hybridizing to a second portion of the target nucleic acid which is located immediately 3' to the first portion and a 3'-region located immediately 3' to the 5'-region,

wherein the 3'-region of the first probe and the 5'-region of the second probe are capable of specifically hybridizing immediately contiguously with one another to the first and second portions, respectively, of the same target nucleic acid molecule to form a structure that is capable of being bound or cleaved by the FEN-1 polypeptide.
